



# DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Discover. Learn. Empower.

## Experiment1

**Student Name:**Karan

**Branch:** BE-CSE

**Semester:**6th

**Subject Name:**FullStackII

**UID:**23BCS11811

**Section/Group:**KRG-3A

**Date of Performance:**12/01/26

**Subject Code:**23CSH-309

**1. Aim:**To design and implement the foundational frontend architecture of the EcoTrack application using modern React practices, Vitest tooling, and ES6+ JavaScript features.

### **2. Objective:**

- To setup a React project using Vitest with proper project structure
- To understand component-based architecture in React
- To apply ES6 array methods (map, filter, reduce) for data-driven UI rendering
- To separate concerns using components, pages, and data modules

### **3. Implementation/Code:**

#### Header.jsx:

```
const Header = ({ title }) => {
  return (
    <header style={{ padding: "0.5rem", backgroundColor: "#27ae60" }}>
      <h1>{title}</h1>
    </header>
  )
}

export default Header;
```

#### Logs.js:

```
export const logs = [
  { id: 1, activity: "Car Travel", carbon: 4 },
  { id: 2, activity: "Electricity Usage", carbon: 6 },
  { id: 3, activity: "Cycling", carbon: 0 },
];
```

### Dashboard.jsx:

```
import{logs}from'./data/logs';
const Dashboard=()=>{
  consttotal=logs.reduce((sum,log)=>sum+log.carbon,0);//exportingthis function
  directlty change the data
  return(
    <divclassName="dashboard">
      <h2>Dashboard</h2>
      <p>TotalCarbonFootprint: {total}kg</p>
      <ul>
        {logs.map(log=>(
          <likey={log.id}>
            {log.activity}={log.carbon}kg
          </li>
        ))}
      </ul>
    </div>
  );
};

exportdefaultDashboard;
```

### Logs.jsx:

```
import{logs}from'./data/logs'

constActivities=()=>{
  consthighCarbon=logs.filter(log=>log.carbon>3);
  constlowCarbon=logs.filter(log=>log.carbon<=3);
  return(
    <div>
      <h2>HighCarbonActivities</h2>

      <ul>
        {highCarbon.map(log=>(
          <likey={log.id}style={{color:"red"}}>
            {log.activity}={log.carbon}kg
          </li>
        )))
      </ul>

      <h2>LowCarbonActivities</h2>
      <ul>
```

```

    {lowCarbon.map(log=>(
      <li key={log.id} style={{color:"green"}}>
        {log.activity}={log.carbon}kg
      </li>
    )));
  </ul>
</div>
);
};


```

```
exportdefaultActivities;
```

### App.jsx:

```

importHeaderfrom"./components/Header"; import
Logs from "./pages/Logs";
importDashboardfrom"./pages/dashboard";
```

```

constApp=()=>{
  return (
<>
  <Headertitle="Ecotrack-Experiment1"/>
  <mainstyle={{padding:"1rem"}}>
  <Dashboard/>
  <br></br>
  <Logs/>
</main>

</>
);
}
exportdefaultApp;
```

### Main.jsx:

```

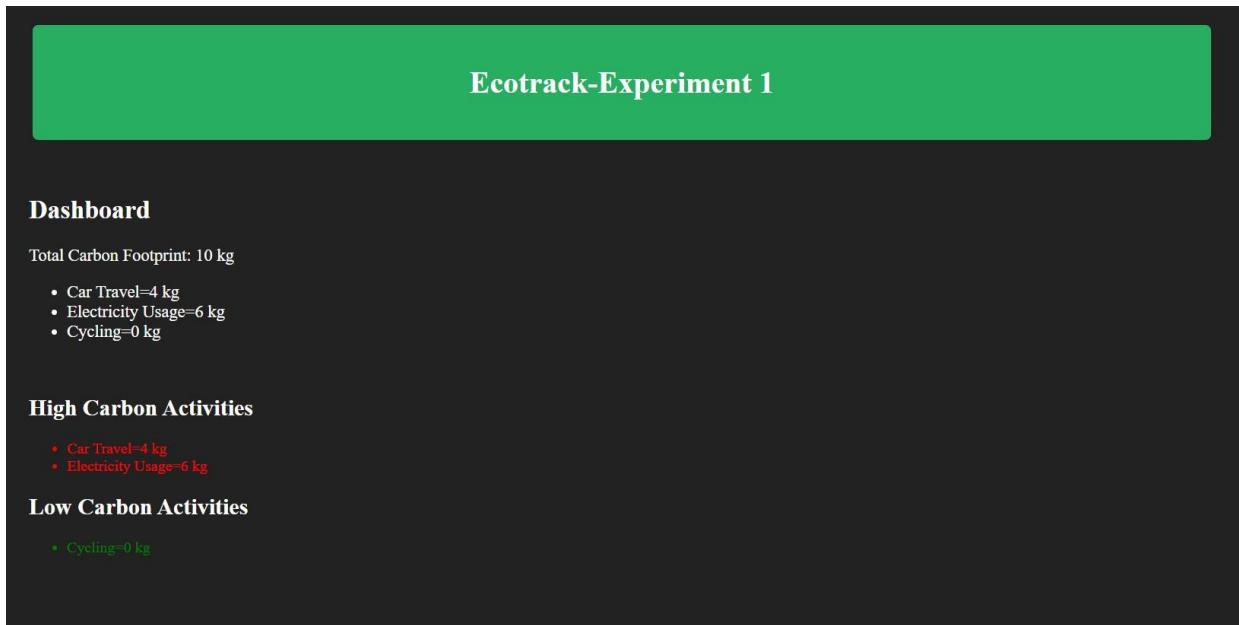
import{StrictMode}from'react'
import{createRoot}from'react-dom/client'import
'./index.css'
importAppfrom'./App.jsx'
```

```

createRoot(document.getElementById('root')).render(
<StrictMode>
  <App/>
</StrictMode>,
```

)

## 4. Output



## 5. Learning Outcome

1. Ability to set up and configure a React application using Vite, understanding modern frontend tooling and project structure.
2. Understanding of component-based architecture in React, enabling modular, reusable, and maintainable UI development.
3. Practical use of ES6 JavaScript array methods (map, filter, reduce) for implementing data-driven user interface rendering.
4. Application of separation of concerns principles by organizing code into components, pages, and data modules.
5. Capability to design a basic scalable frontend architecture, suitable for future enhancements such as routing, state management, and API integration.